Subpart 193.10—Fire Main System, Details

§ 193.10–1 Application.

(a) The provisions of this subpart, with the exception of § 193.10–90, shall apply to all vessels contracted for on or after March 1, 1968.

(b) Vessels contracted for prior to March 1, 1968, shall meet the requirements of § 193.10–90.

§ 193.10–5 Fire pumps.

(a) Vessels shall be equipped with independently driven fire pumps in accordance with Table 193.10–5(a).

TABLE 193.10–5(a)

Gross tons		Minimum number of pumps	Hose and hydrant size, inches	Nozzle orifice size, inches	Length of hose, feet
Over	Not over				
	100	[1] 1	[1] 1½	[1] ½	50
100	1,000	1	1½	⅝	50
1,000	1,500	2	1½	⅝	50
1,500	.....	2	[2] 2½	[2] ⅞	[2] 50

[1] On vessels of 65 feet in length or less, ¾-inch hose of good commercial grade together with a commercial garden hose nozzle may be used. The pump may be hand operated and the length of hose shall be sufficient to assure coverage of all parts of the vessel.

[2] 75 feet of 1½-inch hose and ⅝-inch nozzle may be used where specified by § 193.10–10(b) for interior locations and 50 feet 1½-inch hose may be used in exterior locations on vessels in other than ocean or coastwise services.

(b) On vessels of 1,000 gross tons and over on an international voyage, each required fire pump, while delivering water through the fire main system at a pressure corresponding to that required by paragraph (c) of this section, shall have a minimum capacity of at least two-thirds of that required for an independent bilge pump. However, in no case shall the capacity of each fire pump be less than that otherwise required by this section.

(c) Each pump must be capable of delivering water simultaneously from the outlets having the greatest pressure drop from the five pumps to the nozzles which may not always be the two highest outlets, at a Pitot tube pressure of not less than 50 p.s.i. Where 1½-inch hose is permitted in lieu of 2½-inch hose by footnote 2 of Table 193.10–5(a), the pump capacity shall be determined on the same basis as if 2½-inch hose had been permitted. Where ¾-inch hose is permitted by Table 193.10–5(a), the Pitot tube pressure may not be less than 35 p.s.i.

(d) Fire pumps shall be fitted on the discharge side with relief valves set to relieve at 25 p.s.i. in excess of the pressure necessary to maintain the requirements of paragraph (c) of this section or 125 p.s.i., whichever is greater. Relief valves may be omitted if the pumps, operating under shutoff conditions, are not capable of developing a pressure exceeding this amount.

(e) Fire pumps shall be fitted with a pressure gage on the discharge side of the pumps.

(f) Fire pumps may be used for other purposes provided at least one of the required pumps is kept available for use on the fire system at all times. In no case shall a pump having connection to an oil line be used as a fire pump. Branch lines connected to the fire main for purposes other than fire and deck wash shall be so arranged that adequate water can be made continuously available for firefighting purposes.

(g) The total area of the pipes leading from a pump shall not be less than the discharge area of the pump.

(h) On vessels with oil fired boilers, either main or auxiliary, or with internal combustion propulsion machinery, where 2 fire pumps are required, they shall be located in separate spaces, and the arrangement, pumps, sea connections, and sources of power shall be such as to insure that a fire in any one space will not put all of the fire pumps out of operation. However, where it is shown to the satisfaction of the Commandant that it is unreasonable or impracticable to meet this requirement due to the size or arrangement of the vessel, or for other reasons, the installation of a total flooding carbon dioxide system may be accepted as an alternate method of extinguishing any fire which would affect the powering and operation for the required fire pumps.

(i) Except as provided for in § 193.10–10(e), a sufficient number of hose streams for fire fighting purposes must be immediately available from the fire main at all times by either of the following methods:

(1) *Maintenance of water pressure.* (i) Water pressure must be maintained on